

Zooming

Future user interface?

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About me



Classical example of zooming





Future

Present

Past

Zooming

Not only about maps



Spaces
between words

Past



Spaces
between words

**Intellectual
technology**
Tools that extend our mental
rather than our physical capacities

Past

Intellectual
technology

Spaces
between
words

Common-
placing

Index

Inter-
connect-
ivity



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Past

Intellectual
technology

Spaces
between
words

Common-
placing

Index

Inter-
connect-
ivity

Amount
of data

Effort
to get

Problems

Read

Get

Get
faster

Get
right,
compare

Past

Zooming
as environment for
comparing
lots of different data

Past



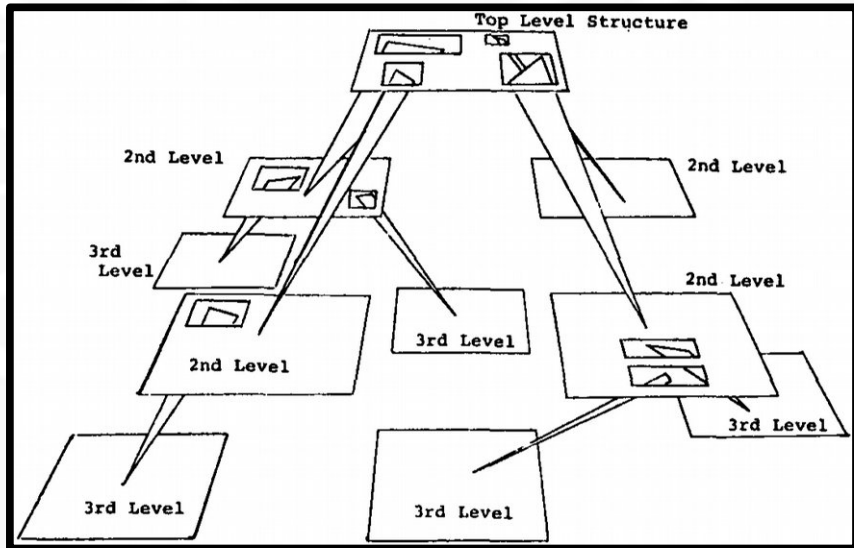
**Zooming
as environment for
comparing
lots of different data**

**Spaces
as information**

Past

**Structured
not linear data**

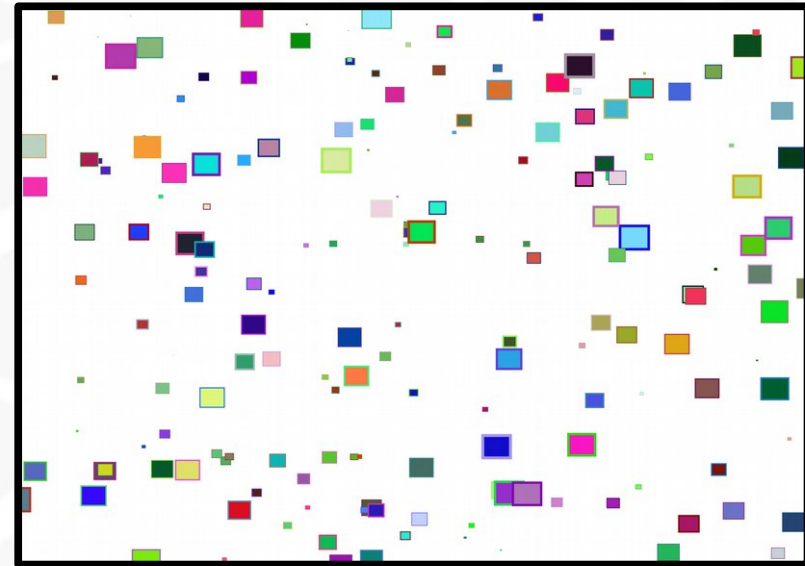
Zooming user interfaces



William Donelson
(1978)
Spatial Data
Management System

Piccolo2D

Zoom.js



Present

Technology **trends**

→ **Web**

→ **Mobile**

Present

Technology trends

- **Web** **Maturity**
 - **Mobile** **of libraries**
- E.g. read only, simple cases

Present

Challenges

- **Precision**
- **Resources**
- **Sensors**

Present

1/3 Precision

Max width/height

2 147 483 647

Screen size

4 096

Alignment issues

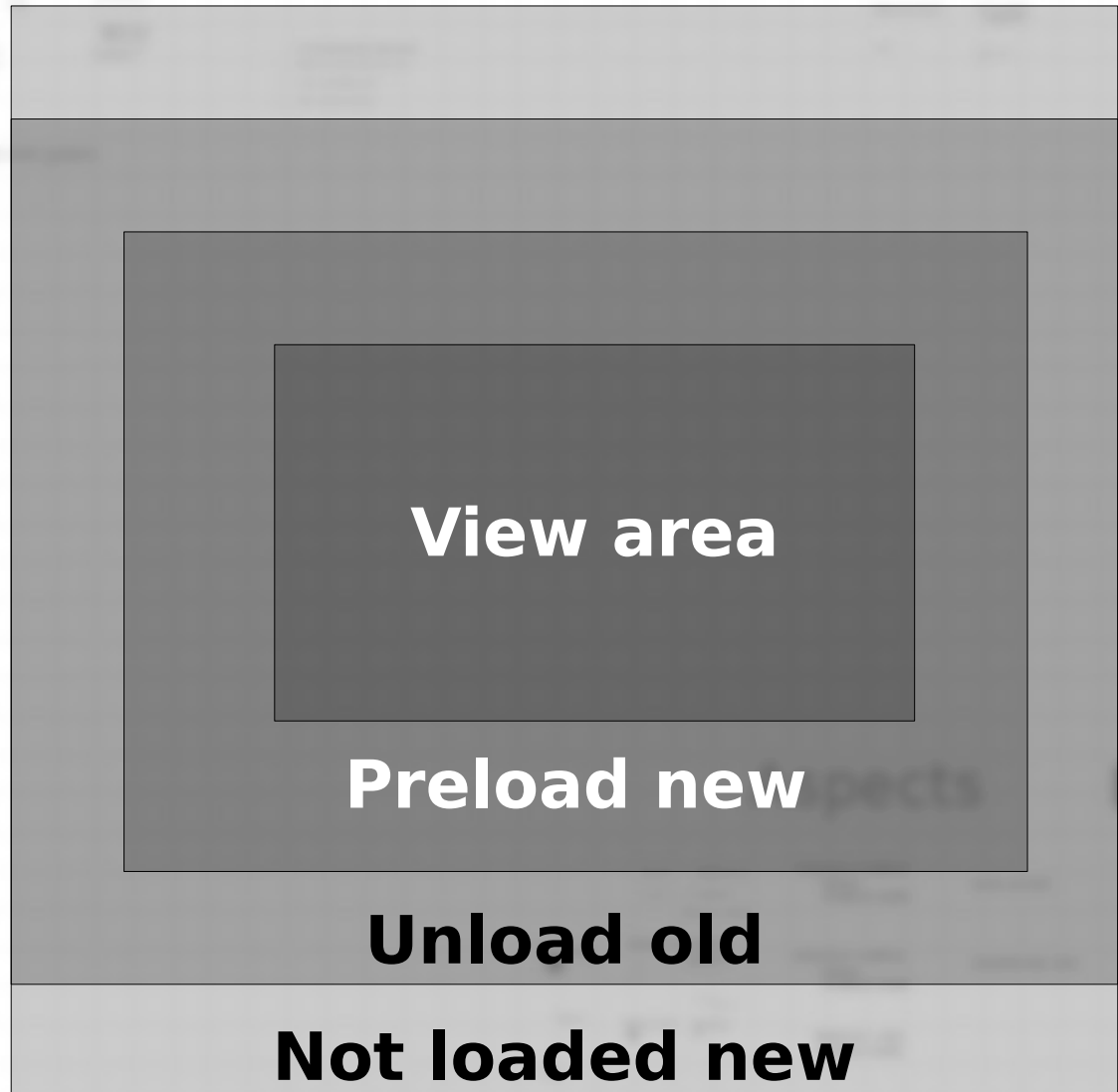
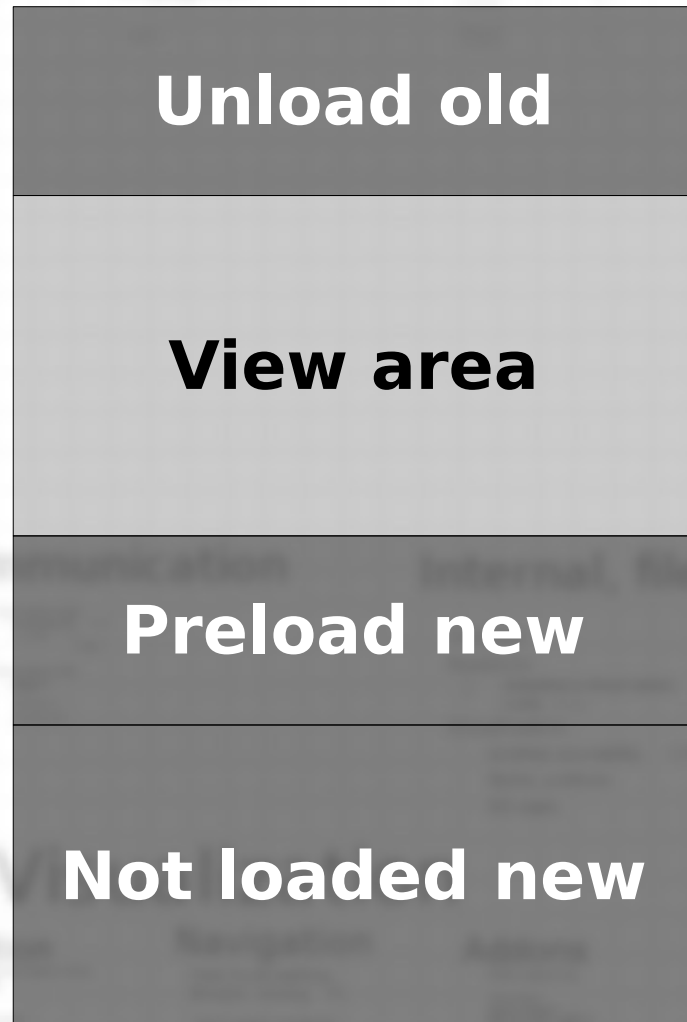
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1.7014120E38

Min/Max zoom :(
Complex math :(
Visualization

2/3 Resources



3/3 Sensors

**2 Keys
Up/Down**

**1 Touch
Swipe to move**

**1 Touch
Click to select**

**6 Keys
Left/Right
Up/Down
In/Out**

**1 = pan
2 = pitch**

Zoom selected :(

Implement zooming is much harder

- :(Precision**
- :(Resources**
- :(Sensors**

Present

Interfaces

- 3D/Virtual reality
- Voice
- Mind
- Machine learning

Future

Compare

**Sight - natural input for
complex data**

**Humans - for things
machines cannot do**

Future

Not replace

Sensors **3D/Virtual reality**

Linear **Voice**

Linear **Mind**

Not all **Machine learning**

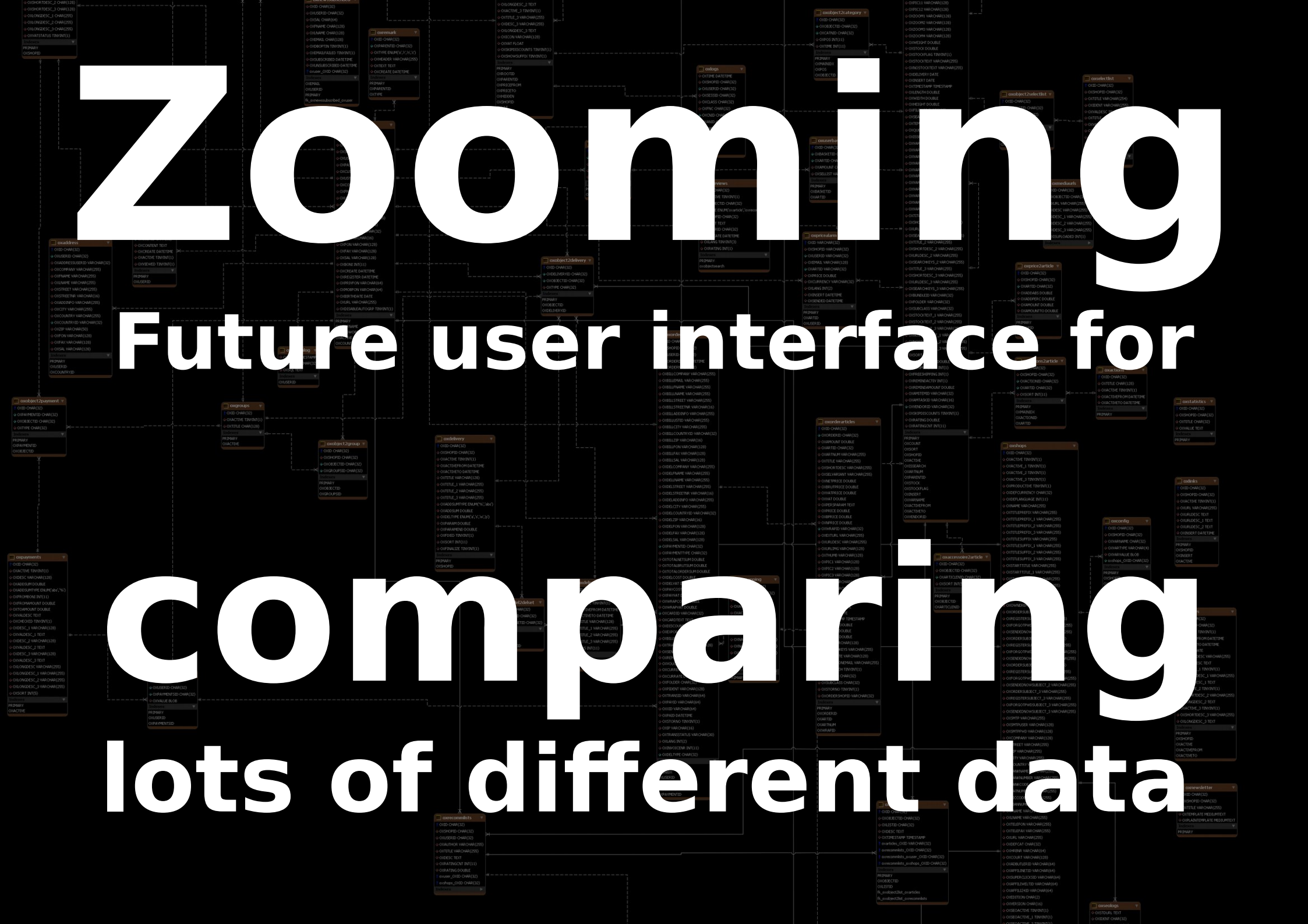
Future

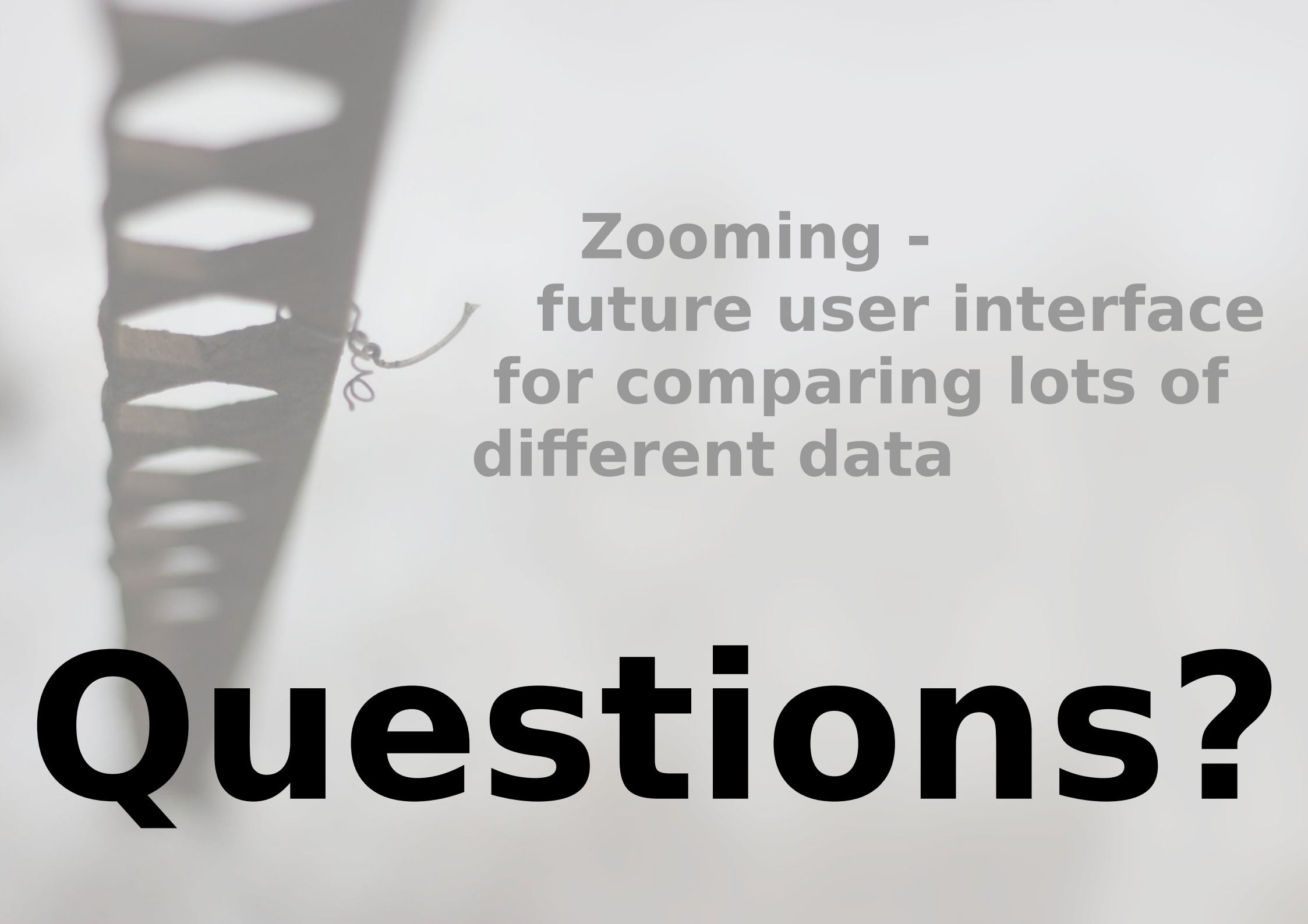
Zooming

Future user interface for

comparing

lots of different data





**Zooming -
future user interface
for comparing lots of
different data**

Questions?

References

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